

REMARKS

I. INTRODUCTION

In response to the Office Action dated February 12, 2003, claims 1, 7, and 13 have been amended. Claims 1-18 remain in the application. Entry of these amendments, and re-consideration of the application, as amended, is requested.

II. OFFICE ACTION DOUBLE PATENTING REJECTION

In paragraphs (4)-(5), the Office Action provisionally rejects the claims under the judicially-created doctrine of double patenting as being unpatentable over claims 1-42 of U.S. Patent No. 6,064,386.

As stated in the previous response, the Applicants respectfully traverse all of these rejections. The present claims provide for dynamically creating a socket when a plug is placed proximate to the object. Accordingly, a socket is dynamically created. However, the '386 patent does not provide for such dynamic socket creation. Instead, the '386 patent provides for creating/defining a socket which can then later be used. There is no suggestion nor description of the dynamic socket creation as set forth in the present specification and claims.

Nonetheless, should the Examiner continue to assert a double patenting rejection, Applicants may file a terminal disclaimer if necessary to moot this rejection when allowable subject matter is identified.

III. PRIOR ART REJECTIONS

In paragraphs (6)-(7) of the Office Action, claims 1-18 were rejected under 35 U.S.C. §102(b) as being anticipated by Arsenault, U.S. Patent No. 5,894,310 (Arsenault).

Applicants respectfully traverse this rejection.

Specifically, claim 1 was rejected as follows:

As per independent claim 1, a method of display information . . . comprising:
displaying a first object . . . ; displaying a second object on the monitor; positioning the first object proximate to the second object . . . ; displaying plugs on the first object . . . plugs indicate one or more respective attachment points . . . ; dynamically creating a socket on the second object . . . socket indicates an attachment point between the first object and the second object, and automatically coupling the second object to the first object at the attachment point. Arsenault discloses modeling shapes and solids with intelligence and that intelligent shape modeling may include parameters specifying how the shape is to interact with other shapes, how the snap into place with other shapes

and maintaining a certain distance with other shapes, col. 3. Arsenault further discloses a plug and socket configuration for the bus, however Arsenault also discloses a snap in and interlock capability, col. 4.

Applicants traverse the above rejections for one or more of the following reasons:

- (1) Arsenault neither teaches, discloses or suggests changing an appearance of plugs on an object when the object is positioned proximate to another object;
- (2) Arsenault fails to teach, disclose or suggest dynamically creating a socket; and
- (3) Arsenault fails to teach, disclose or suggest creating a socket when a plug of a first object is placed proximate to a second object.

Independent claims 1, 7, and 13 are generally directed to the dynamic creation of a socket. Specifically, two objects are displayed on a monitor. A first object is then placed proximate to a second object. When the first object is positioned proximate to the second object, the appearance of a plug on the first object changes (i.e., it is displayed). Further, when the plug on the first object is placed proximate to the second object, a socket is dynamically created. In other words, a socket, that was not on the second shape prior to proximate placement, is created once a plug is moved near the shape. Thereafter, the second object and first object are automatically coupled at the attachment point (i.e., at the location of the plug and socket). Accordingly, the socket is not predefined but is instead created dynamically when objects are moved near each other.

The cited references do not teach nor suggest these various elements of Applicants' independent claims.

Arsenault completely fails to describe changing the appearance of plugs at a particular time. In the present invention, the change in appearance causes the plugs to be displayed depending on the position of an object with respect to another object. As claimed, the plugs on the first object are displayed when the object is positioned proximate to a second object. In Arsenault, such a dynamic change in the appearance of a plug is not even remotely suggested.

Further, Arsenault fails to dynamically create sockets. The prior art, including Arsenault merely describes the use of predefined anchor points. Arsenault describes many predefined properties that are established and represented in a constructed solid geometry (CSG). A computer stores the object/properties of a CSG in a tree (see col. 9, lines 30-38). Arsenault's properties include the capability for an object to "snap onto" another object when it is dragged nearby (see col. 9, lines 59-67). In this regard, a property of Arsenault may define a center of an object as an

“anchor” (see col. 9, line 67-col. 10, line 2). However, while Arsenault describes the dynamic behavior of a shape, such dynamic behavior merely provides for the use of these properties on an object dynamically. In this regard, the dynamic behavior is not used in the creation of a socket on an object

Arsenault's properties are stored and described separately from this “dynamic” behavior (see col. 10, line 67-col. 11, line 11). As illustrated in col. 10, line 67-col. 11, line 11 of Arsenault, the “anchor” components and “attachment point components” are separately described while “other” components are specifically described as relating to “dynamic or static behavior of the shape”. Further, Arsenault specifically provides that an “anchor” component is not changed (see col. 22, lines 11-13). Accordingly, Arsenault's dynamic behavior does not include the dynamic creation of a socket on an object.

In view of the above, Applicants submit that Arsenault lacks any discussion, implicit or explicit regarding the dynamic creation of a socket. Further, Arsenault fails to even remotely describe the creation of a socket when an object is moved proximately to another object. The timing aspect of when Arsenault's “attachment point” or “anchor point” is created is strictly limited to prior to object placement wherein the properties are set forth in a CSG tree. In this regard, the dynamic behavior of an object and “snapping” together of objects are an entirely different concept from the dynamic creation of a socket which can then be used in the dynamic behavior of an object. Thus, the predefining of an “anchor point” does not render obvious the dynamic creation of a socket as claimed. Also, Arsenault does not describe the creation of an “anchor” or “attachment point” when an object is move proximately to another object (as claimed).

Further, instead of teaching the above invention, Arsenault teaches away from Applicants' invention because it describes how anchor points do not change and are set forth in a CSG tree which are created prior to using an object.

The final Office Action provides that Arsenault teaches deforming an “other shape” when a first shape comes close to the “other shape” at col. 4, lines 1-26. Such a teaching is relied upon to teach dynamic behavior of a shape. However, as described above, while Arsenault may teach various dynamic shape behaviors, Arsenault does not provide for dynamically creating a socket. Col. 4, lines 1-26 provide for modifying the geometry of the shape such as drilling a hole into a shape or welding a block to another block (see col. 4, lines 5-8). However, as stated in the present

specification (see page 19, lines 8-13), such an embodiment does not provide for the plug and socket like technology and attachment points as claimed. Instead, Arsenault's shape may not have a socket for the hole to attach to and the one block may not have a socket on the other block to attach to. Alternatively, sockets may be preexisting or be predefined on Arsenault's shape (for the hole to attach to) or on the block (for the other block to be welded to). In this regard, Arsenault fails to teach dynamically creating a socket on the fly that may be used to attach a plug to. The present invention provides for dynamically creating such sockets.

Furthermore, the creation of the socket occurs when the second object is moved proximate to the first object. Nowhere in Arsenault is there any indication that a socket is created on a first object based on the movement of another object towards it. In this regard, utilizing an existing socket is completely different from creating a socket. The final Office Action relies on col. 22, lines 1-16 to indicate an example of a sculpting shape where a user drops a shape onto another shape using a drag and drop technique. In the example, the position of the shape being dropped (i.e., the hole shape) is the position that was "hit" by the cursor (see col. 22, lines 6-10).

However, while a shape may be positioned in a certain location, there is no creation of a socket on the selected shape (as currently claimed). As illustrated in FIGS. 4A and 4B of the present invention, without the use of a socket, there is no coupling of the two objects together. Examining FIG. 4B, without the socket, when the shape 406 without the socket is moved 401, the shape 400 that was intended to move with the shape 406 does not move with it. However, if the shape 406 has a socket 412, when the shape 406 is moved 416, the shape 400 that was intended to move with the shape 406 does move with it.

In Arsenault, there is no indication or use of a socket in this manner as claimed and defined in the present specification. In this regard, the mere indication of a position of a child shape (see col. 22, lines 6-10) is not equivalent to the creation of a socket. Nor is such an indication equivalent to creating a socket on the fly when a second shape is moved proximate to it.

Moreover, the various elements of Applicants' claimed invention together provide operational advantages over Arsenault. In addition, Applicants' invention solves problems not recognized by Arsenault.

Thus, Applicants submit that independent claims 1, 7, and 13 are allowable over Arsenault. Further, dependent claims 2-6, 8-12, and 14-18 are submitted to be allowable over Arsenault in the

same manner, because they are dependent on independent claims 1, 7, and 13, respectively, and thus contain all the limitations of the independent claims. In addition, dependent claims 2-6, 8-12, and 14-18 recite additional novel elements not shown by Arsenault.

IV. CONCLUSION

In view of the above, it is submitted that this application is now in good order for allowance and such allowance is respectfully solicited. Should the Examiner believe minor matters still remain that can be resolved in a telephone interview, the Examiner is urged to call Applicants' undersigned attorney.

Respectfully submitted,

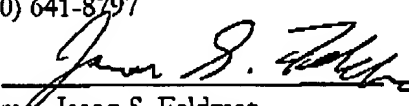
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Date: April 14, 2003

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